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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,835	08/25/2003	Douglas Odell Richard		2884

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EXAMINER

NGUYEN, TRAN N

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/647,835	<b>Applicant(s)</b> RICHARD, DOUGLAS ODELL	
	<b>Examiner</b> Tran N. Nguyen	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 29 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☐ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

**Claim 1** is objected to because of the following: “*a limited range of yaw*” should be clarified as “*a predetermined range of yaw*”.

**Claim 7** is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims 1, 2, 3, and 4. Claim 7 should be write as “*the machine in one of claims 1, 2, 3, and 4*”. See MPEP § 608.01(n).

Accordingly, *the claim 7 is benign treated as if it depends frome any one of claims 1-4 for the purpose of further prosecution on the merits.*

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Finkle (US 6,586,858)** in view of **Kawamura et al (US 5, 376, 852)**.

**Finkle** discloses an electromagnetic machine substantially as the claimed invention, particularly Finkle discloses the machine (figs 1, 3-4) comprising an stationary armature (20, 22) with multiple phase windings thereof; a permanent magnet rotor (12, 18); a stationary

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commutator with commutator bars (figs 1 and 3); a rotating brush assembly includes a brush holder 28 that carries brushes 30 (best shown in FIGS. 5 and 6). The brush holders 28 are located at opposite sides of the stationary commutator assembly which includes first and second sets of electrically conductive commutator bars (32 and 33) (best shown in FIGS. 3, 5 and 6); located concentrically outside and surrounding the rotating brush are a pair of solid, electrically conductive slip rings 38 (best shown in FIG. 4), each of the slip rings 38 has an electrical terminal 40 formed at its radially outermost point. The slip ring terminals 40 are adapted to be connected to respective opposite terminals 41 of a source of DC voltage (not shown). A set of slip ring tension springs 42 apply pressure against the slip rings 38 to hold the slip rings in constant contact against the rotating brushes 30 of the brush assemblies to compensate for brush wear during motor operation. Finkle substantially discloses the claimed invention, except for the limitations of the followings:

- (a) the stator having lap or wave windings connected in series;

*Regarding the limitations of the subsection (a) herein, Kawamura*, however, teaches a stator winding having stator winding comprises coils being connected in series and is formed into a double-layer lap winding (fig 1) for the purpose of providing the machine with a stator that has multi-phase armature winding wherein the coil impedance can be equalized in each of the phases to enhance efficiency thereof.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the machine by employing armature multi-phase winding having lap or wave windings connected in series, as taught by Kawamura. Doing so would provide the machine with a stator that has multi-phase armature winding wherein the coil impedance can be equalized in each of the phases to enhance efficiency thereof.

#### ***Allowable Subject Matter***

**Claims 2-7** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

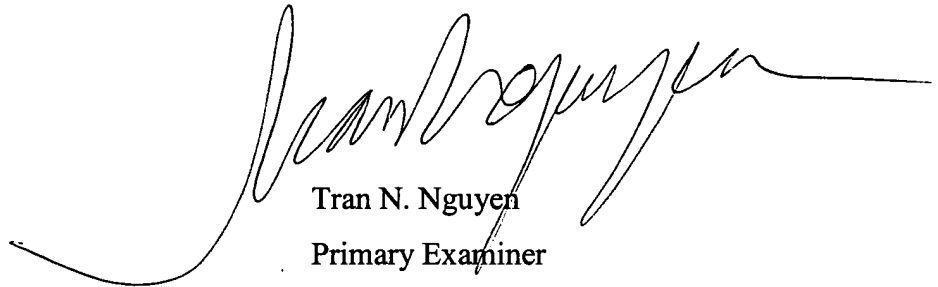
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tran N. Nguyen  
Primary Examiner  
Art Unit 2834